Hernia (2024) 28:2025–2026
https://doi.org/10.1007/s10029-024-03060-6

COMMENT

Comment to: Staged abdominal wall reconstruction in the setting of complex gastrointestinal reconstruction

P. N. Hackenberger[1] · D. S. Eiferman[2] · J. E. Janis[3]

Received: 18 April 2024 / Accepted: 21 April 2024 / Published online: 28 April 2024

We read with great interest the recently published article entitled "Staged abdominal wall reconstruction in the setting of complex gastrointestinal reconstruction" by DeLong et al. [1] As a group also passionate about optimizing abdominal wall outcomes in complex patients, we find this work supports findings in our paper "'Delayed-Immediate' Hernia Repairs in Infected Wounds: Clinical and Economic Outcomes" which explores the role of staged hernia repairs [2].

Many abdominal wall surgeons remain skeptical of performing definitive herniorrhaphy in conditions known to significantly increase risk of complications and recurrence. Our pilot data in patients with CDC 4 ("dirty/infected") classifications (often related to gastrointestinal reconstruction [GIR] or its complications) found that a "delayed-immediate" technique can offer greater control of the abdominal environment through de-escalation of CDC wound classification by the time of definitive abdominal wall repair [2]. DeLong et al.'s comparison between their single-stage and multi-stage cohorts offers a unique picture of an 'intention to treat' analysis that is helpful in further elucidating which patients may benefit from one approach versus another.

The authors report key differences between their single-stage and multi-stage groups, with higher CDC classification also more commonly associated with patients undergoing staged repair. One notable conclusion resulting from the multi-stage cohort's prolonged average interval (403 days) between first (S1) and second (S2) stages was the allowance for preventable risk factor reduction and ongoing preoperative optimization. This observation is certainly supported by the well-documented multifactorial nature of hernia recurrence [3]. While gastrointestinal reconstruction (GIR) may not always be elective in nature, it can be prudent to delay definitive herniorrhaphy until modifiable risk factors are satisfactorily addressed. In patients undergoing S2, known risk factors for hernia recurrence—CDC classification, body mass index (BMI), and smoking cessation—were all improved compared to S1 and likely contributed to the documented low complications and favorable outcomes following the second surgery. With improved understanding of specific indications for staging, surgeons and health systems can improve patient counseling, better communicate with insurance companies, and seek to reduce associated costs.

With respect to cost, intentional staging of procedures must also be done with consideration of economic impact. Our study demonstrated that a "delayed-immediate" staged approach nearly doubled total costs compared to one-stage herniorrhaphy. However, the increased cost may be justified in patients at high-risk for serious complications (e.g. anastomotic breakdown, mesh infection) where the cost of treatment would exceed the cost of performing a "delayed-immediate" repair. Thus, delineating patients at highest risk for costly complications is the next stage in responsibly selecting patients for staged treatment of the abdominal wall.

As the field of complex abdominal wall reconstruction continues to innovate, we look forward to the opportunity to compare, contrast, and collaborate with like-minded surgeons. Given the emergence of several "staged" hernia repair techniques, it is critical to consider clearly defining "staging", the optimal interval between stages, and articulate the indications, both from the technique side as well as the patients who might best benefit from this approach that prioritize safety and outcomes while reducing complications and limiting expenses.

✉ J. E. Janis
Jeffrey.Janis@osumc.edu

[1] Division of Plastic Surgery, Northwestern Feinberg School of Medicine, Chicago, IL, USA

[2] Division of Trauma and Critical Care, Department of Surgery, The Ohio State University Wexner Medical Center, Columbus, OH, USA

[3] Department of Plastic and Reconstructive Surgery, The Ohio State University Wexner Medical Center, Columbus, OH, USA

Funding No funding was received for this article.

Declarations

Conflict of interest Dr. Janis receives royalties from Thieme and Springer Publishing unrelated to the submitted work. Neither Dr. Hackenberger nor Dr. Eiferman have any conflicts of interest to disclose related to the submitted work.

Informed consent Informed consent for publication is given.

Ethical approval This commentary article does not describe a new study or experimental research, thus IRB information, etc is not provided.

References

1. DeLong CG, Crowell KT, Liu AT, Deutsch MJ, Scow JS, Pauli EM, Horne CM (2009) Staged abdominal wall reconstruction in the setting of complex gastrointestinal reconstruction. Hernia 28(1):97–107. https://doi.org/10.1007/s10029-023-02856-2. (**Epub 20230830**)
2. Hackenberger PN, Eiferman D, Janis JE (2023) "Delayed-immediate" hernia repairs in infected wounds: clinical and economic outcomes. Am Surg 89(6):2345–2349. https://doi.org/10.1177/00031348221093804. (**Epub 20220429**)
3. Parker SG, Mallett S, Quinn L, Wood CPJ, Boulton RW, Jamshaid S, Erotocritou M, Gowda S, Collier W, Plumb AAO, Windsor ACJ, Archer L, Halligan S (2021) Identifying predictors of ventral hernia recurrence: systematic review and meta-analysis. BJS Open. https://doi.org/10.1093/bjsopen/zraa071